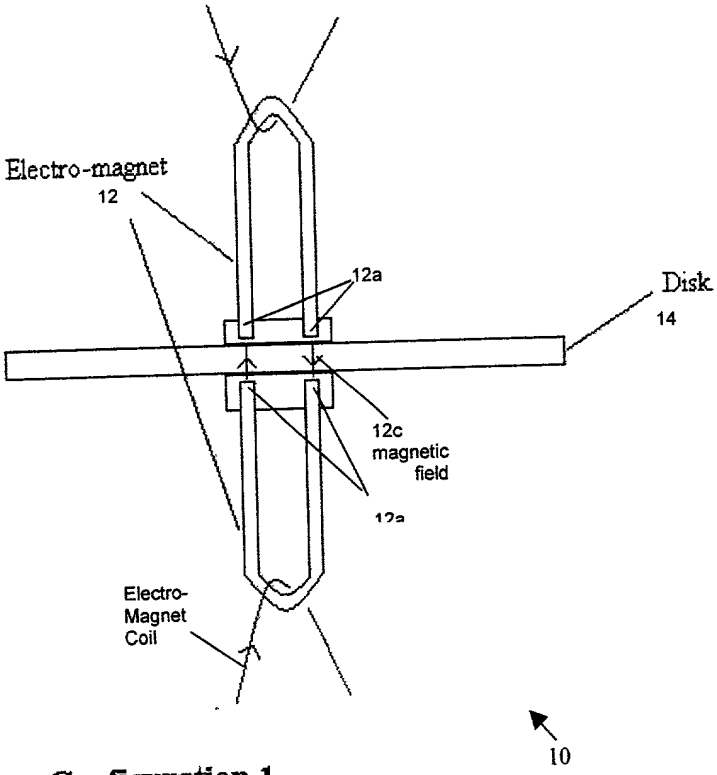


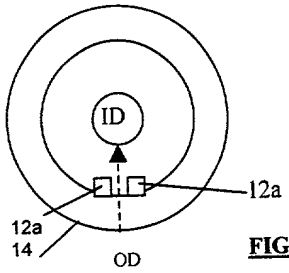


FIG. 1B

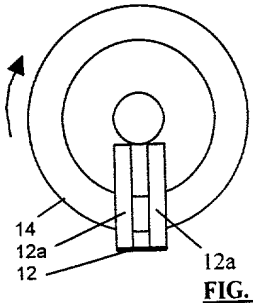
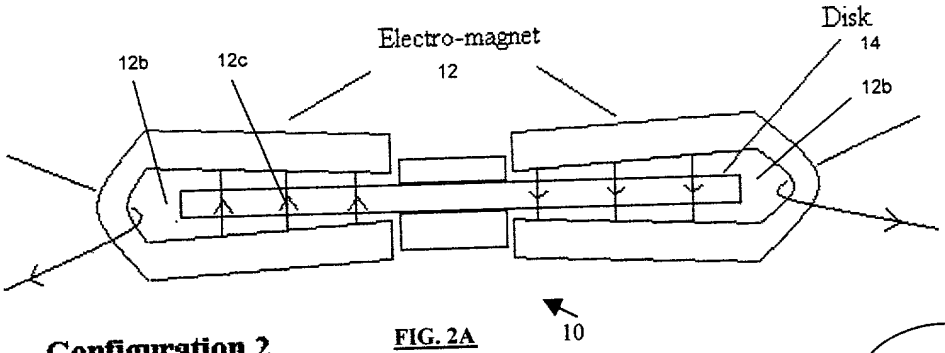


FIG. 1C

Configuration 1 FIG. 1A



Configuration 2 FIG. 2A

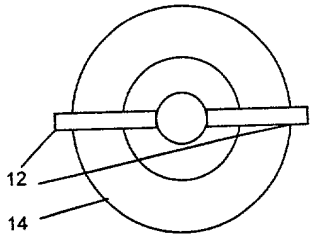


FIG. 2B

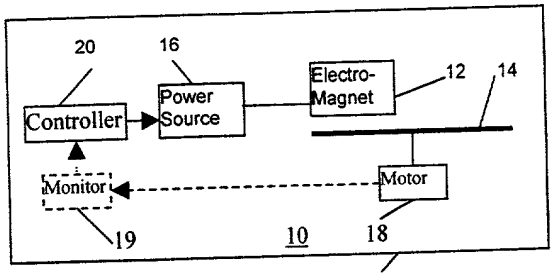


FIG. 2C

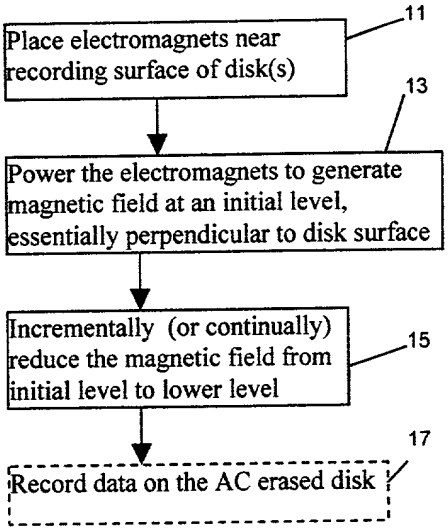

Place electromagnets near recording surface of disk(s)
11
Power the electromagnets to generate magnetic field at an initial level, essentially perpendicular to disk surface
13
Incrementally (or continually) reduce the magnetic field from initial level to lower level
15
Record data on the AC erased disk
17

FIG. 1D

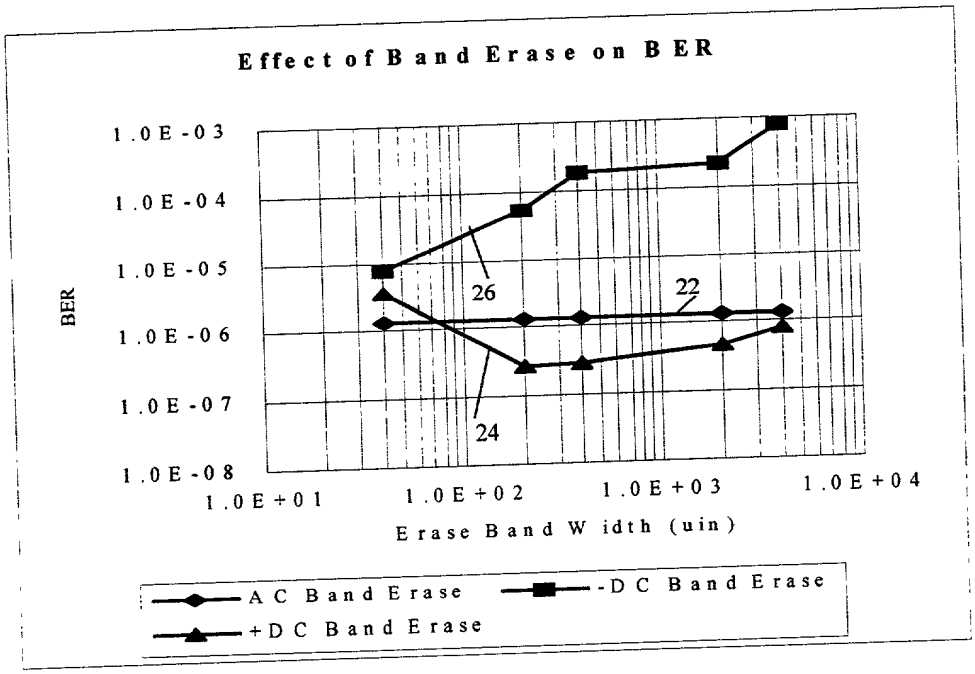


FIG. 3A - Effect of Band Erase on BER

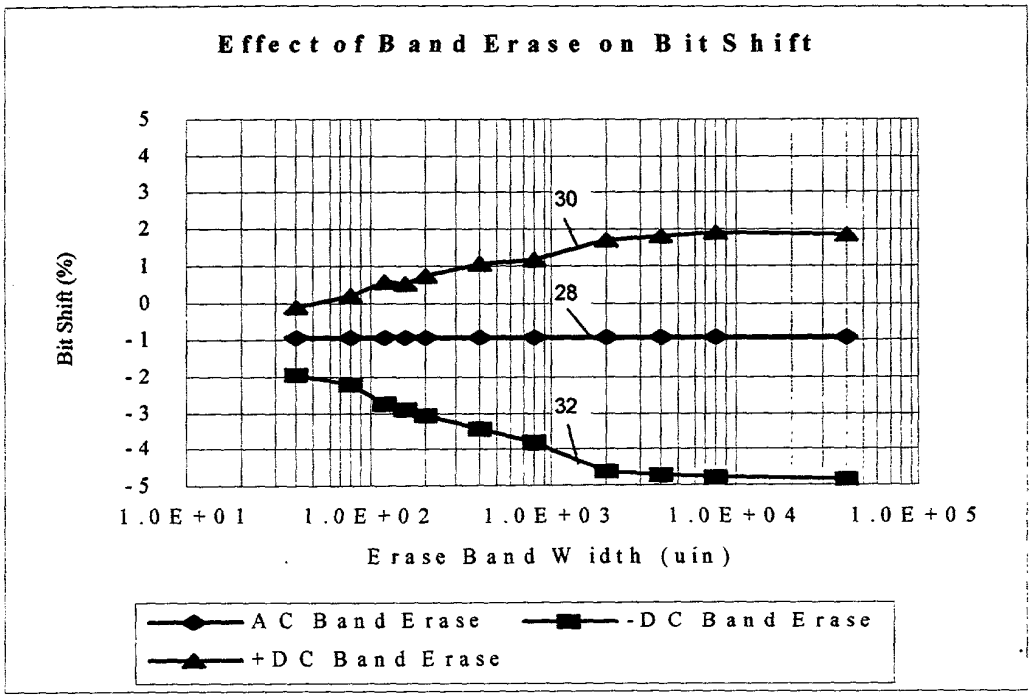


FIG. 3B - Effect of Band Erase on Transition Shift

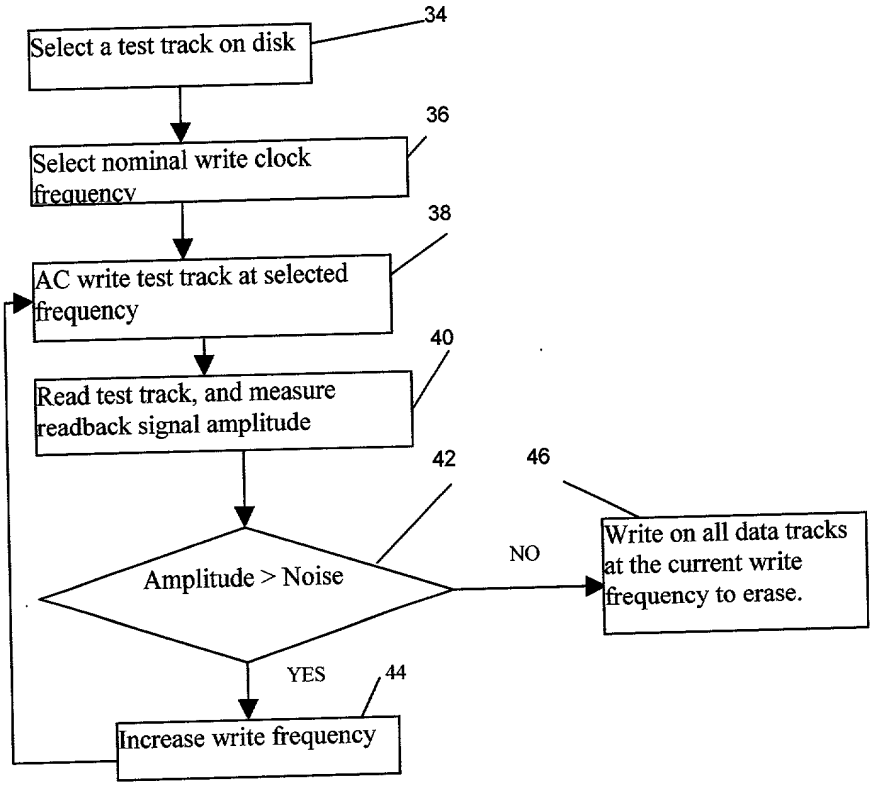

Select a test track on disk
34
Select nominal write clock frequency
36
AC write test track at selected frequency
38
Read test track, and measure readback signal amplitude
40
Amplitude > Noise
42
NO
46
Write on all data tracks at the current write frequency to erase.
YES
44
Increase write frequency

FIG. 4A

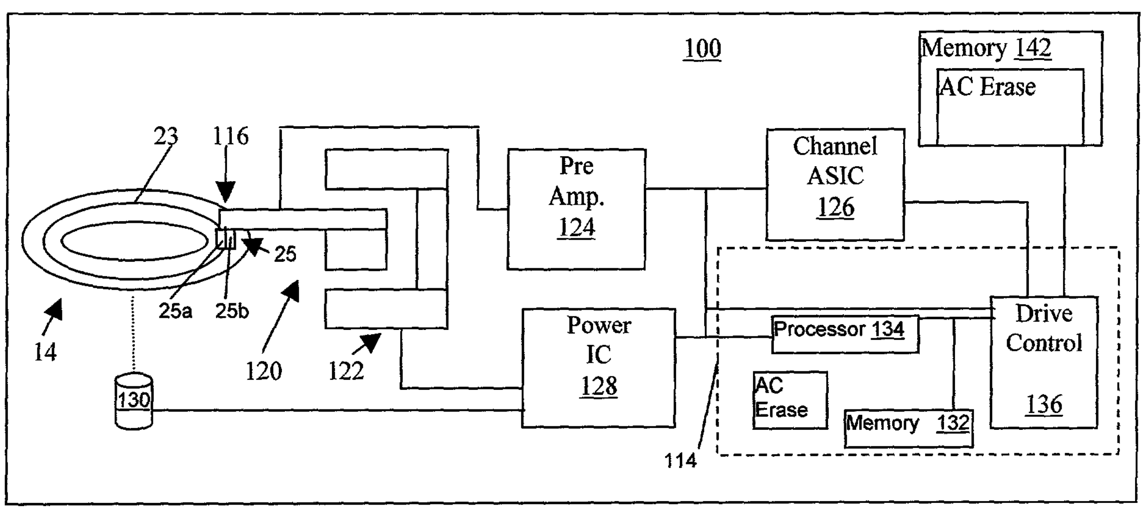


FIG. 4B

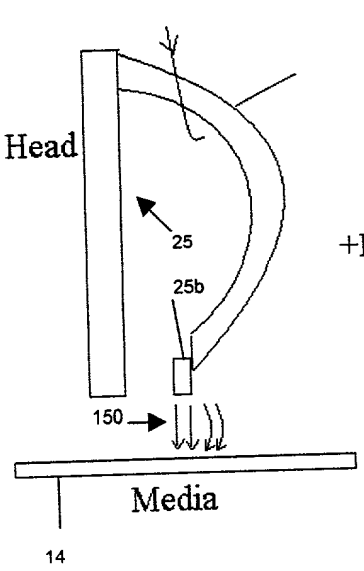


FIG. 4C (AC Erase)

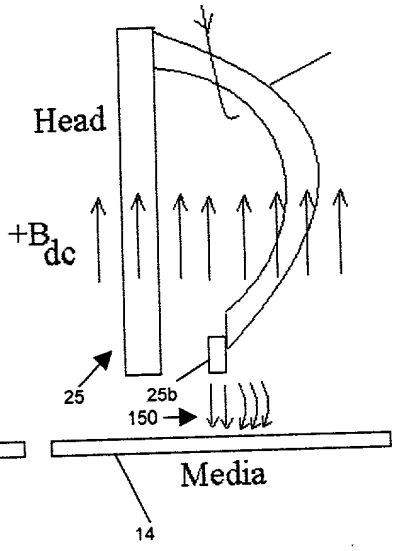


FIG. 7B (+DC Erase)

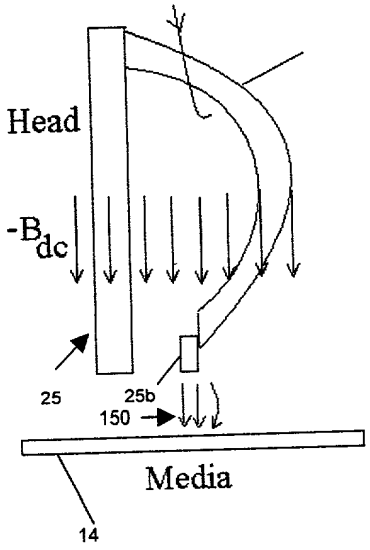


FIG. 7C (-DC Erase)

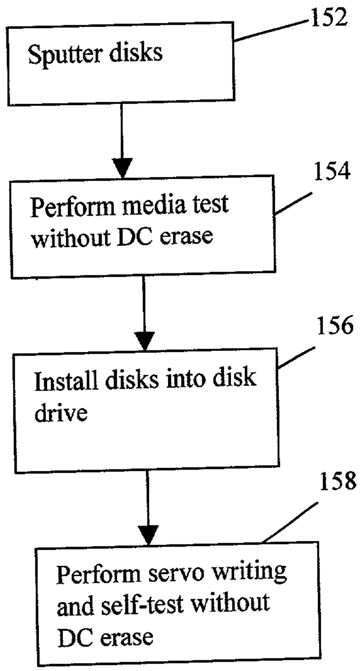


FIG. 5

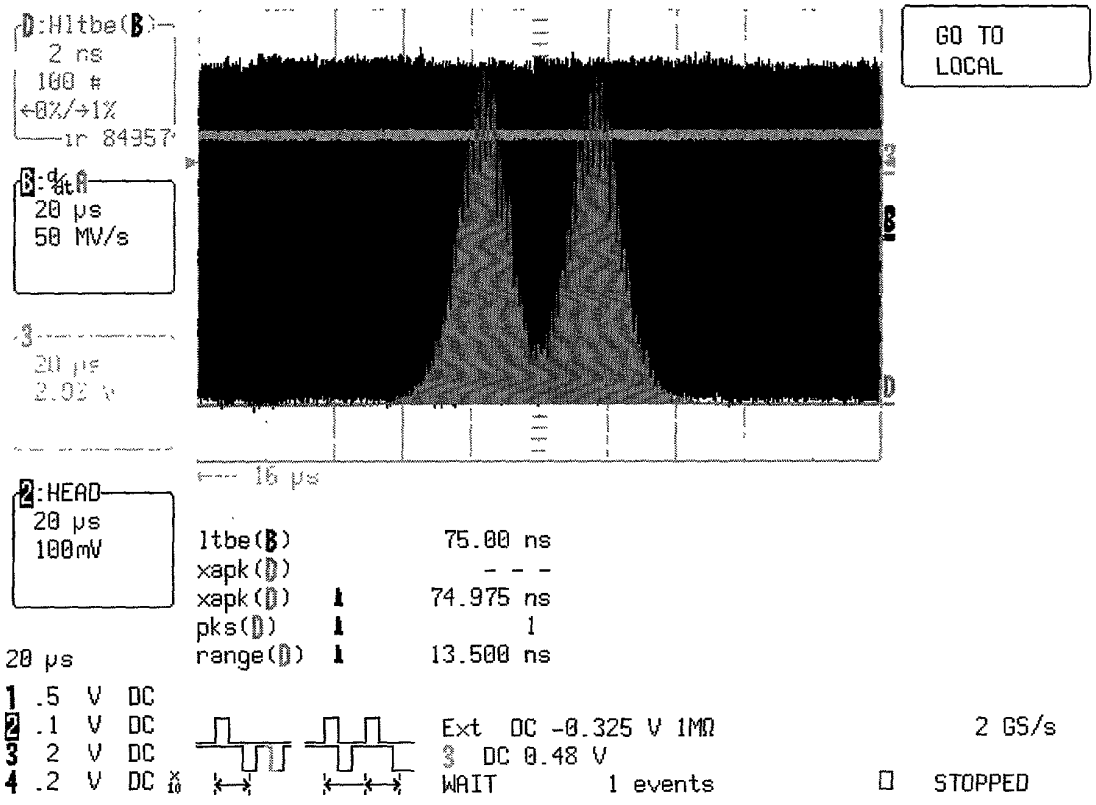


FIG. 6A (Prior Art) - Readback signal timing histogram of differentiated data written after a conventional DC band erase.

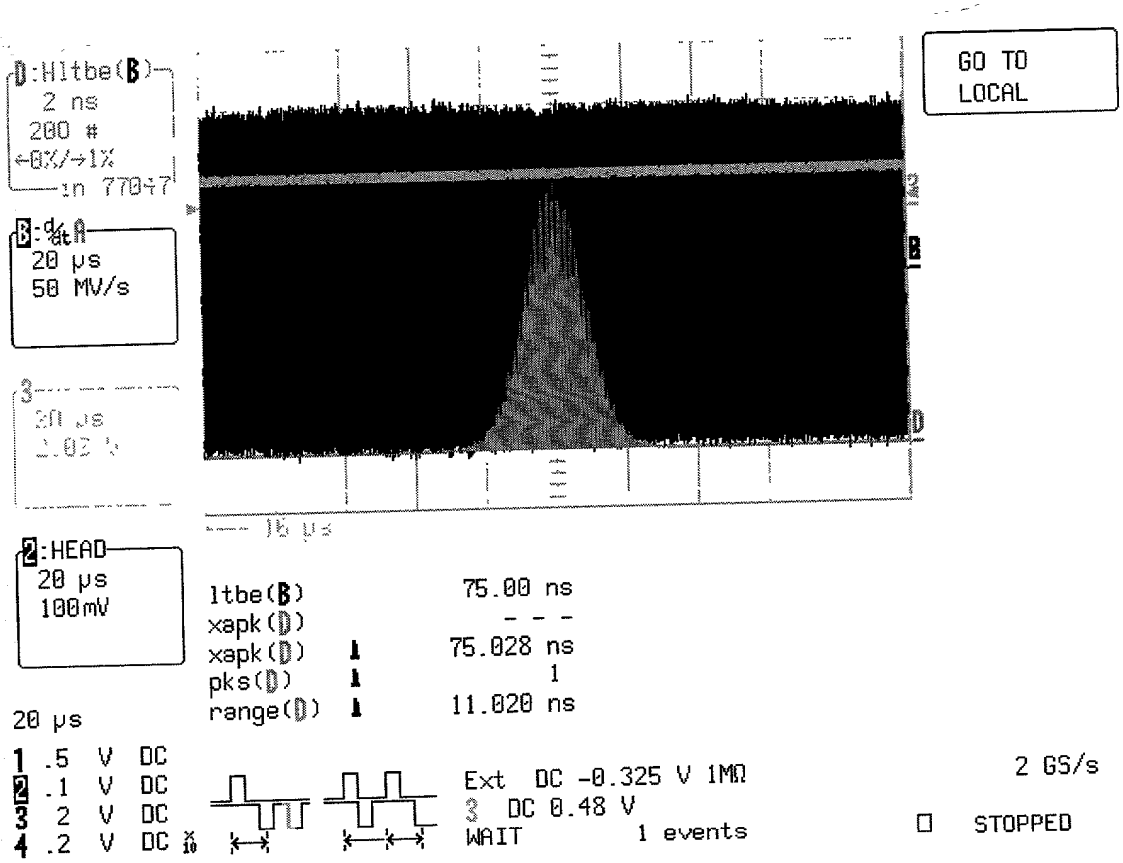


FIG. 6B - Read back signal measurement for a track written on as-received media from disk sputtering process without any net magnetization, wherein timing asymmetry is eliminated.

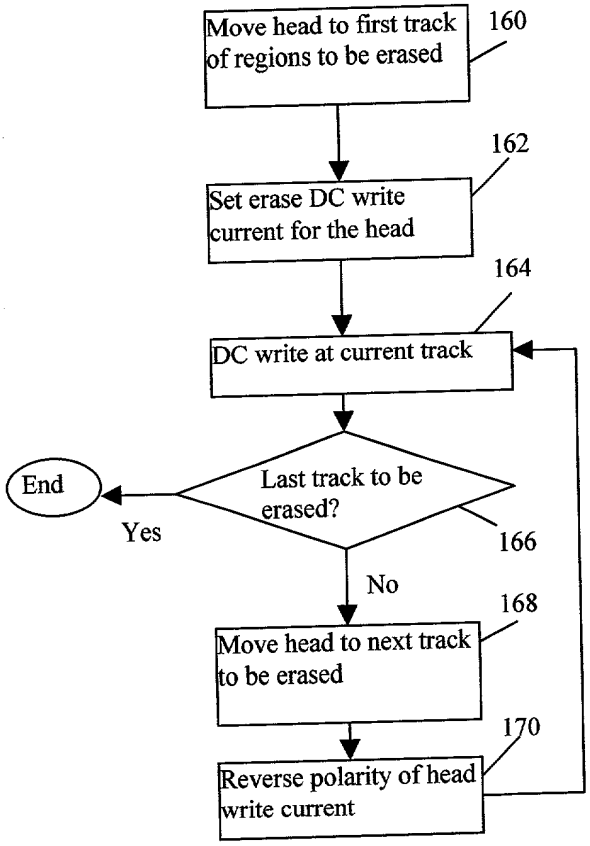

Move head to first track of regions to be erased
160
Set erase DC write current for the head
162
DC write at current track
164
Last track to be erased?
166
End
Yes
No
Move head to next track to be erased
168
Reverse polarity of head write current
170

FIG. 7A

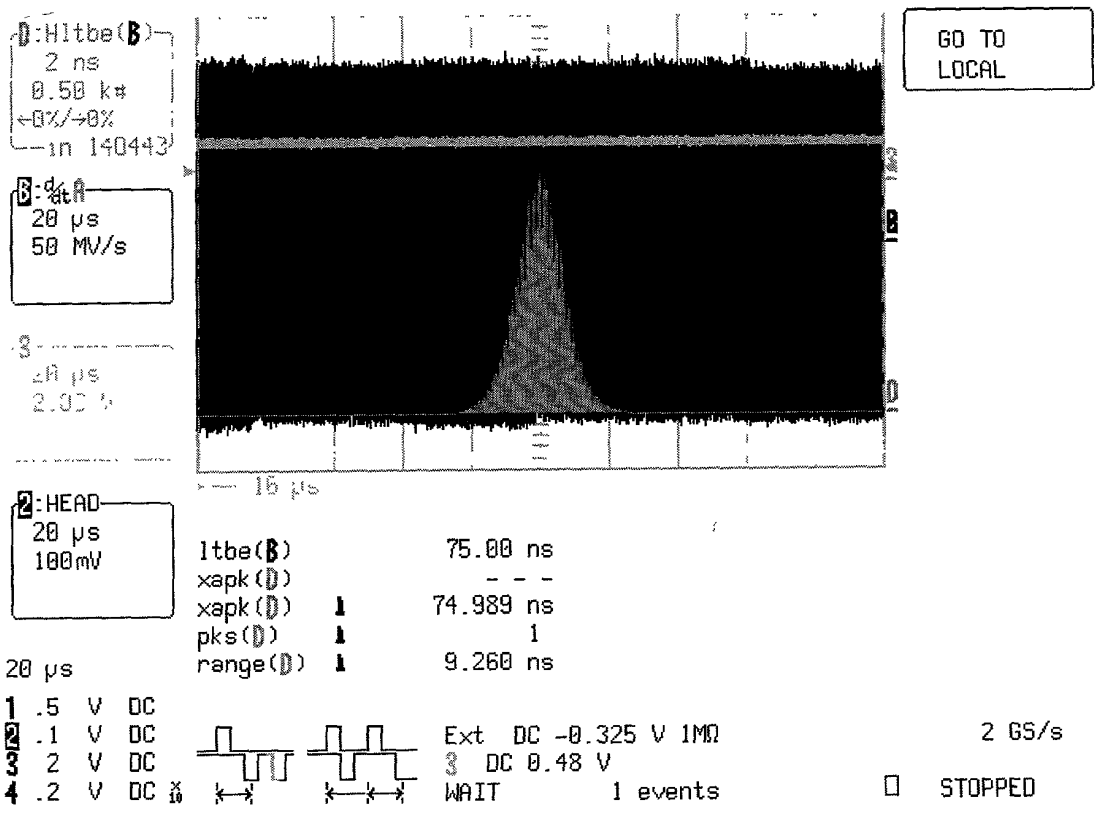


FIG. 7D - Measurement of data written on media preconditioned by DC erasing with alternate polarity on adjacent tracks, wherein timing asymmetry is eliminated.